

Amendments to the Specification:

On pages 9-10, please replace the paragraph bridging pages 9-10 with the following rewritten paragraph:

The waste heat boiler 3 has a steam generator chamber surrounded by a pressure-resistant mantle 14, to which chamber a supply device 16 for boiler feed water as well as an exhaust device 17 for low-tension steam are connected. The waste heat boiler 3 contains a long tube bundle 18 of heat exchanger tubes that extend through the steam generator chamber and are inserted into tube plates 19 at both ends, which plates delimit the steam generator space. Furthermore, at least one additional tube bundle 20 of shorter heat exchanger tubes is provided, which are also inserted into the tube plate 19 at their exit-side end, and open into an in-flow chamber 21 at their entry-side end. The hot process gas that exits from the combustion chamber, i.e. the splitting reactor 1, flows through the long tube bundle 18. The in-flow chamber 21 is disposed within the steam generator chamber 15 and has the cooler process gas 10 from the catalyst stage 4 applied to it. The waste heat boiler 3 furthermore has a head piece 22 that follows the tube plate 19 on the exit-side end, and is subdivided into sections. A tube bundle 18, 20 is assigned to

every section of the head piece, in each instance. Devices for conducting away condensed sulfur are connected with the sections.

On pages 10-11, please replace the paragraph bridging pages 10-11 with the following rewritten paragraph:

On the entry side, the waste heat boiler 3 is directly connected with the splitting reactor 1. It has a corresponding head piece with a connecting flange 26. The cooler process gas drawn from the catalyst stage 4 can be fed into the in-flow chamber 21 by way of a mantle-side gas inlet. The application point for the cooler process gas is selected in such a manner, along the waste heat boiler 3, that no overly great temperature differences occur in the tubes, and the heat stresses can be mastered. In the exemplary embodiment, the position of the in-flow chamber 21 is coordinated with the temperature profile that occurs within the heat exchanger tubes of the long tube bundle 18, in such a manner that the temperature differences between the in-flow chamber 2 and the local temperature of the process gas that is conducted through the long tube bundle 18 are less than 150°C.